

I. Amendments to the Claims

Applicants reserve the right to present the canceled claims for consideration in a continuing application.

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)
7. (canceled)
- 1 8. (original) A method of modifying quotes in an automated exchange trading system that
2 receives orders and quotes from remote computers, matches the orders and quotes to
3 generate trades, and stores orders and quotes that are unmatched, comprising the steps
4 of:
 - 5 receiving trading parameters comprising a risk threshold;
 - 6 associating said trading parameters with specified ones of received quotes;
 - 7 determining whether a quote having associated trading parameters has been
8 filled as a result of a generated trade, and if so, determining a risk level and an
9 aggregate risk level associated with said trade;
 - 10 comparing said aggregate risk level with said risk threshold; and,
 - 11 automatically modifying at least one of the specified ones of received quotes if
12 said threshold is exceeded.
- 1 9. (original) The method of claim 8 wherein the step of determining a risk level comprises
2 calculating a delta value for the generated trade.



- 1 10. (original) The method of claim 8 wherein the step of determining a risk level comprises
2 calculating a trading volume for the generated trade.
- 1 11. (original) The method of claim 8 wherein the step of determining an aggregate risk
2 level comprises determining a net delta.
- 1 12. (original) The method of claim 8 wherein the trading parameters further comprise a
2 time duration, and wherein the step of determining an aggregate risk level comprises
3 summing the deltas from trades involving at least a subset of quotes contained in said
4 quote group that were executed within the time duration.
- 1 13. (original) The method of claim 8 wherein the trading parameters further comprise an
2 integer N, and wherein the step of determining an aggregate risk level comprises
3 summing the deltas from the most recent N trades involving at least a subset of quotes
4 contained in said quote group.
- 1 14. (original) The method of claim 8 wherein the step of determining an aggregate risk
2 level comprises determining a net contract volume.
- 1 15. (original) The method of claim 8 wherein the step of determining an aggregate risk
2 level comprises determining a weighted sum of contract volumes.
- 1 16. (original) The method of claim 8 wherein the step of determining an aggregate risk
2 level comprises determining an aggregate volume quantity.
- 1 17. (original) The method of claim 8 wherein the step of automatically modifying at least
2 one of the specified ones of said received quotes comprises canceling all said specified
3 ones of said received quotes.
- 1 18. (original) The method of claim 8 wherein the step of automatically modifying at least
2 one of the specified ones of said received quotes comprises reducing the quantity
3 associated with the specified ones of received quotes.
- 1 19. (original) The method of claim 8 wherein the step of automatically modifying at least
2 one of the specified ones of said quotes comprises revising at least one of the bid and
3 offer values of each of the specified ones of received quotes.



- 1 20. (original) The method of claim 8 wherein the trading parameters comprise a positive
- 2 risk threshold and a negative risk threshold.
- 1 21. (original) The method of claim 20 wherein the step of comparing the aggregate risk
- 2 level with the risk threshold comprises comparing the aggregate risk level to the
- 3 positive risk threshold if the aggregate risk level is positive, and comparing the
- 4 aggregate risk level to the negative risk threshold if the aggregate risk level is negative.
- 1 22. (original) The method of claim 8 wherein the step of comparing the aggregate risk level
- 2 with the risk threshold comprises comparing the absolute value of the aggregate risk
- 3 level to the risk threshold.
- 1 23. (original) The method of claim 8 wherein each of the specified ones of received quotes
- 2 are associated with one of a first subgroup and second subgroup, and wherein the step
- 3 of automatically modifying at least one of the specified ones of received quotes in the
- 4 quote group comprises reducing the offer values of the quotes in the first subgroup and
- 5 raising the bid values of the quotes in the second subgroup.
- 1 24. (original) The method of claim 23 wherein the first subgroup comprises quotes on call
- 2 series options and the second subgroup comprises quotes on put series options, and
- 3 wherein the aggregate risk is positive.
- 1 25. (original) The method of claim 23 wherein the first subgroup comprises quotes on put
- 2 series options and the second subgroup comprises quotes on call series options, and
- 3 wherein the aggregate risk is negative.
- 1 26. (original) The method of claim 23 where the amount of said reducing and raising is
- 2 determined in response to a modification increment parameter.
- 1 27. (original) The method of claim 8 further comprising the step of automatically
- 2 modifying a quote comprises regenerating a quote having associated trading parameters
- 3 that has been filled as a result of the generated trade.
- 1 28. (original) The method of claim 27 wherein the step of regenerating a quote is performed
- 2 utilizing a regeneration increment.

1 29. (canceled)

2 30. (canceled)

1 31. (previously presented) A method of modifying quotes in an automated exchange trading

2 system comprising the steps of:

3 receiving orders and quotes, wherein specified ones of said quotes belong to a

4 quote group, and wherein said specified ones of said quotes have associated trading

5 parameters comprising a risk threshold;

6 generating a trade by matching said received orders and quotes to previously

7 received orders and quotes;

8 storing each of said orders and quotes when a trade is not generated;

9 determining whether a quote having associated trading parameters has been

10 filled as a result of the generated trade, and if so, determining a risk level and an

11 aggregate risk level associated with said trade;

12 comparing said aggregate risk level with said risk threshold; and,

13 automatically modifying at least one of the remaining said specified ones of said

14 quotes in the quote group if said threshold is exceeded.

1 32. (previously presented) The method of claim 31 wherein the quotes are stored in a quote

2 data structure containing a plurality of quotes fields and at least one risk threshold

3 field.

1 33. (previously presented) The method of claim 32, wherein the plurality of quote fields

2 comprises a bid quote field and an offer quote field.

1 34. (previously presented) The method of claim 32, wherein the data structure further

2 comprises a group indicator field.

1 35. (previously presented) The method of claim 32, wherein the data structure further

2 comprises a quote modification increment field.

1 36. (previously presented) The method of claim 32, wherein the data structure further

2 comprises a quote regeneration increment field.

B
B
1 37. (previously presented) The method of claim 32, wherein the data structure further
2 comprises an owner field.

II. Response to the Examiner's Withdrawal of Claims from Consideration

The Examiner has withdrawn from consideration claims 31-37 because he found them to be directed to a non-elected invention, thus constituting a different species. See 37 C.F.R. 1.142(b) and M.P.E.P. § 821.03. However, Applicants request reconsideration because the invention of claims 31-37 is not a different species from the invention previously claimed by the Applicants. To demonstrate, the Applicants direct the Examiner's attention to independent claim 8. The preamble of claim 8 states that the exchange system "receives orders and quotes," "matches the orders and quotes" and "stores orders and quotes." New Claims 31-37 simply take portions of the preamble of claim 8 and move them into the body of claim 31. Thus, claims 31-37 are directed to the same invention as claims 8-28, and are generally commensurate in scope, without being drawn to a different species. Applicants respectfully request reconsideration, and the entry and examination of claims 31-37.

III. Response to the 35 U.S.C. § 112 ¶ 2 Rejections of Claims 8-28

The Examiner has rejected claims 8-28 under 35 U.S.C. § 112 ¶ 2 as being indefinite. The Examiner states that the Applicants do not clearly define the terms "risk threshold," "risk level," and "aggregate risk level" as recited in claim 8, lines 5 and 8-9. The Applicants refer the Examiner to pages 17 to 22 of the specification, in which these terms are clearly defined. Thus, Applicants respectfully submit that claim 8 is not indefinite under § 112 ¶ 2.

IV. Response to the 35 U.S.C. § 103(a) Rejections of Claims 8-28

The Examiner has rejected claims 8-28 based on 35 U.S.C. § 103(a), citing U.S. Patent 5,809,483 (hereinafter "*Broka*") and U.S. Patent 5,732,400 (hereinafter "*Mandler*"). In order to establish the required *prima facie* case of obviousness of a claimed invention by applying a

combination of references, the proposed combination must teach or suggest all of the elements of the claimed invention. Furthermore, there must be a suggestion or motivation to combine the references. The Applicants respectfully submit that there is no motivation to combine the cited references, nor does the proposed combination teach or suggest the claimed combination of elements.

A. Summary of Arguments in Favor of Patentability

The prior art cited by the Examiner, alone or in combination, fails to show an exchange system that (i) receives and matches quotes and orders, and (ii) provides a mechanism for automatic quote modification or regeneration. Applicants acknowledge that it is well known for traders to engage in the modification of quotes: prior art exchanges allow users to submit messages containing quote cancellation requests and to submit electronic messages containing new or revised quotes. These prior art exchange systems, however, have disadvantages, including the use of computer message queues that receive quote submission or cancellation messages from remote terminals. Under times of high trading volume, these message queues might cause processing delays of newly submitted cancellation requests, new quotes and/or revised quotes.

On the other hand, Applicants' claimed invention overcomes these and other disadvantages. Applicants respectfully submit that it is not known to provide an order matching exchange system that allows its users to provide risk threshold information to the exchange, and to have the exchange system perform risk assessment calculations and responsively make determinations regarding quote regeneration or modification in response to the calculated risk, together with the parameters provided by the user. The claimed system provides for automatic

quote modification and/or regeneration and does not require the user to submit quote cancellation requests or quote resubmissions as does the prior art.

Applicants submit that the Examiner's remarks indicate that the pending rejections are impermissible hindsight reconstruction of the claimed invention, which is simply not present in the prior art. Consequently, for the reasons, as set forth in more detail below, the Applicants believe that the references cited by the Examiner do not render claims 8-28 obvious.

B. Failure to Provide an Objective Reason to Combine References

In order to establish the required *prima facie* case of obviousness of a claimed invention by applying a combination of references, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See M.P.E.P. § 2143.01.

In addition, “a statement that modifications of the prior art to meet the claimed invention would have been ‘well within the ordinary skill of the art at the time the claimed invention was made’ because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references.” *Id.*

The Applicants respectfully submit that the Examiner's Office Action does not provide a prior art reference or a well-reasoned statement showing some suggestion of the desirability of doing what the Applicants have done. Without providing a reference or convincing reasoning, the Examiner, using impermissible hindsight and language paralleling the above-quoted

language, states only that “[t]o have provided the trading system of *Broka* to include a level of risk assessment in a computer would have been obvious to one of ordinary skill in the art in view of *Mandler*. ”

Because there is no suggestion to combine the references, the Applicants submit that claims 8-28 are allowable over the cited art. But even if, for the sake of argument, a motivation to combine the teachings did exist (which the Applicants do not concede), the combined teaching of *Broka* and *Mandler* fail to provide the method set forth in claim 8, as set forth below.

C. The Proposed Combination Does Not Teach All the Elements

Under 35 U.S.C. § 103(a), in order to establish the required *prima facie* case of obviousness of a claimed invention by applying a combination of references, the proposed combination must teach or suggest all of the elements of the claimed invention. M.P.E.P. § 2143. In particular, “the identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Applicants traverse the rejections of claims 8-28: the Applicants respectively submit that the proposed combination of *Broka* and *Mandler* fails to teach or suggest the claimed elements of an exchange system (paraphrasing certain elements of independent claim 8):

- (i) associating trading parameters (comprising a risk threshold) with specific received quotes;
- (ii) determining a risk level and aggregate risk level if a quote has been filled;
- (iii) comparing the aggregate risk level with the risk threshold;
- (iv) automatically modifying quotes if the threshold is exceeded.

Broka is an online transaction processing system that provides a manual quote modification screen. The quote modification screen identified by the Examiner appears to relate to a graphical user interface that allows an individual to selectively modify quotes. In particular, the specification of *Broka*, at column 15, indicates that if a user “selects a quote and then selects the Modify button... the system displays the Modify quote window” shown in figures 21(a) or (b), depending on whether the user is a dealer or broker. (*Broka*, col. 15, lines 13-18). The specification further describes that the user must select an “uptick” or a “downtick” to indicate how the quote should be modified. (*Broka*, col. 15, lines 41-47). Such quote modification in *Broka* is not automatically performed, nor is it done in response to an aggregate risk measurement.

Furthermore, the Examiner still has not indicated in what manner *Broka* teaches an exchange system that uses a risk threshold or associates the threshold to a quote; a risk level or aggregate risk level, or the use of the threshold and aggregate risk level to automatically modify a quote. Rather the Examiner simply stated that “[q]uotes inherently comprise a risk level.”

Finally, in addition to stating that modifying *Broka* to include a level of risk assessment would have been obvious, the Examiner also stated again that “[d]oing such would incorporate well-known business rules criteria to assess whether a trade is to be executed or not.” This statement indicates that the Examiner has, again, misread the Applicants’ claim limitations, resulting in the Examiner’s misplaced reliance on *Mandler*, which teaches that a potential buyer’s risk classification is dynamically determined for use in authorizing a pending transaction or request. (*Mandler*, col. 3, lines 39-54). Specifically, in Applicants’ invention, the level of risk assessment is not used to determine whether a trade is (or should be) executed. Rather, the risk level in Applicants’ invention is determined *after* the trade has been executed, and is used to